LATE REPORT FOR SWAN ISLAND, WEST INDIES

TABLE 1.—*Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidity in percent obtained by radiosondes during September 1945*

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL

Altitude (meters) m. s. l.	Swan Island, West Indies (10 m.)				Altitude (meters) m. s. l.	Swan Island, West Indies (10 m.)			
	Number of observations	Pressure	Temperature	Relative humidity		Number of observations	Pressure	Temperature	Relative humidity
Surface	30	1,011	26.4	86	7,000	28	432	−13.0	59
500	30	957	23.6	83	8,000	26	378	−19.5	60
1,000	30	903	20.8	79	9,000	25	330	−26.5	
1,500	30	853	18.2	72	10,000	24	287	−34.1	
2,000	30	804	15.4	68	11,000	24	248	−42.2	
2,500	30	758	12.7	65	12,000	24	213	−50.6	
3,000	30	714	9.8	64	13,000	23	182	−59.0	
4,000	30	632	3.9	64	14,000	21	155	−66.6	
5,000	30	558	−1.7	61	15,000	15	132	−72.6	
6,000	28	492	−7.0	56	16,000	8	110	−76.9	

RIVER STAGES AND FLOODS FOR OCTOBER 1945

By C. R. JORDAN

Precipitation during October averaged less than normal in most of the States. It was particularly dry in Virginia and in the Central and North-central States. The State of Iowa experienced the driest October of record, where precipitation averaged 16 percent of normal, or 0.34 inch. Rainfall was much above normal in the Southwest; from Texas eastward through Georgia; Tennessee; and in Michigan, Ohio, New York, and New England.

During the 6-month period ending with October, precipitation was above normal in every State except Kentucky, New Mexico, Arizona, north Dakota, Montana, and Washington, with a nation-wide average of 117 percent. The greatest departures from normal were Nevada, with 174 percent, and New Mexico, with 72 percent.

Run-off was generally above normal for October, representing, in many cases, carry-over from recharge of previous months. The greatest flood in several years was reported in the upper Mohawk River Basin in central New York, where damage was reported to be in the neighborhood of $1,000,000. Streams along the South Atlantic Coast receded slowly during the month, and the streams in Arkansas and Oklahoma fell steadily from high stages observed in late September and the opening days of October.

Atlantic Slope drainage.—The greatest flood of record in the upper Mohawk River Basin since the completion of the new State Barge Canal system about 1918, occurred on October 1–3, 1945. The following report of the flood was received from Mr. E. J. Christie, Weather Bureau Office, Albany, N. Y.:

A mass of cold polar air influenced the weather over New York State during the last 2 days of September 1945. On Monday, October 1, the cold air mass had moved eastward, and the main body of it overlay New England as it was being overrun from the southwest by a mass of warm and moist air which converged over western New York and eastward over the headwaters of the Mohawk River and on up over the central and southern Adirondack Mountains. The precipitation pattern caused by this flow of air followed that of no less than five September storms, most of them bringing copious rainfall. Rain began in the early morning of Monday, October 1, and continued steadily all day and night. The rain gage chart from the recording gage at Utica Airport showed the period to be just 24½ hours when any rain of consequence fell—6:00 a. m. on the 1st to 6:30 a. m. on the 2d. The rain fell with interesting uniformity as regards its intensity, the graph resulting from it as pictured on the rain gage chart being almost a straight-line progression during the time period indicated above. The amounts reported each successive 6 hours from the weather stations at the Rome Air Depot and the Utica Airport also bear this out.

Due to the heavy rainfall over this same area in September, reservoirs were at high levels prior to the storm, the ground water level was near its maximum, and the surface fairly well saturated from the most recent heavy storm on the 28th of September. Therefore, the run-off was especially high for this type of storm, and, with no storage of consequence to control it, the streams rose steadily. By Tuesday morning, a severe flood was in progress in all the headwater creeks and streams. The Delta Dam was spilling more water than at any time since its construction; the West Branch of the Mohawk River, as well as Oriskany Creek, East and West Canada Creeks, and all other small tributaries, had reached highest levels since 1913. Due to the fact that only light rain fell in the Schoharie Creek watershed, the lower Mohawk Valley escaped without damage from flooding, and at Schenectady and Cohoes, the flow was only of moderate capacity and height.

Damage from the flooding is estimated to have been in the neighborhood of one million dollars and was about equally divided among industry, transportation, agriculture, utilities, and miscellaneous. In only a very few localities was it necessary for the inhabitants to move to safer ground, but many basements were filled or partially filled.

The amounts of rainfall during the storm period, as reported from stations in and adjacent to the upper Mohawk River watershed, were as follows:

Station	*Inches*	*Station*	*Inches*
Highmarket	5.03	Hoffmeister	4.41
Booneville	4.37	Stewarts Landing	3.95
Rome	4.51	Sprite Creek	3.92
Hinckley	5.20	Inghams	3.09
Trenton Falls	4.70	Little Falls	2.84
Utica Airport	3.92	Pecks Pond	3.99
Utica	4.38	Cloversville	3.62

No flood stages occurred at official Weather Bureau stations, but in order to present a picture of the magnitude of this high-water period and a comparison with some of the previous records, some

of the maximum gage heights have been secured from the U. S. Geological Survey. They are tabulated as follows:

River and station	Maximum stage previously known		Maximum stage during October	
	Stage	Date	Stage	Date
Mohawk River:				
Below Delta Dam	8.1	Mar. 9, 1935	11.2	2
Below Little Falls	17.2	Mar. 18, 1936	17.8	3
West Canada Creek:				
Below Hinckley Dam	8.9	Apr. 12, 1922	12.9	2
At Kast Bridge	7.3	June 21, 1922	8.1	2
East Canada Creek:				
At Dolgeville	11.8	Mar. 18, 1936	15.1	2

All of the previous records, however, have been established at U. S. Geological Survey gaging stations subsequent to 1913, and the flood of that year, as well as those of 1902, 1901, and the memorable one of 1869, is known to have been considerably in excess of this October 1945 flood. Records of the State Engineer show that in the 1913 flood the discharge at Little Falls was 32,400 c. f. s., while the measured flow at the crest of this last flood was 24,500 c. f. s.

There was some light overflow in a few of the headwater tributaries of the Susquehanna River during the first few days of the month. The streams along the South Atlantic Coast fell steadily from the high flood stages that were reached in late September.

Ohio Basin.—A general rise occurred in the Allegheny River early in October but flood stage was not reached except at Olean, N. Y., where bankfull stage was exceeded only slightly on the 3d. Moderate overflow occurred in the Wabash River Basin in Indiana during the first week of the month.

Arkansas Basin.—Considerable damage was reported in Kansas, Oklahoma, and Arkansas as a result of floods caused by heavy rains in this area during the last week of September. The streams crested during the first few days of October and receded rapidly thereafter. Crest stages were not unusually high but damage of approximately one million dollars, mostly to county roads and fences and to wheat crops, was reported in Kansas, and in Oklahoma it is estimated that damage amounted to approximately one and one-half millions of dollars. The spinach crop in Oklahoma suffered a loss estimated at 50 percent of the total crop, and considerable loss occurred to the corn crop in the Verdigris Basin.

West Gulf of Mexico drainage.—A rainy period from October 4–9 over the upper Trinity River watershed caused the East Fork of the Trinity River to overflow near Rockwall, Tex. At Carrollton, Tex., on the Elm Fork, and at Dallas, Tex., on the main stem of the Trinity, the streams barely reached flood stage. No damage of consequence resulted.

Pacific Slope drainage.—The following report of a flash flood near Tehachapi, Calif., was received from Mr. Edward E. Wilson, Weather Bureau Office, Bakersfield, Calif.:

A cloudburst near Tehachapi, Calif., on October 6, 1945, caused considerable local damage; 2.75 inches of rain fell at Tehachapi in 1½ hours. Rainfall intensity in nearby mountains was evidently greater.

A wall of water, estimated 8 feet high, swept down Tehachapi Canyon, killing three people and causing property damage estimated at $20,000. Property damage at Tehachapi is estimated at $30,000. Several hundred feet of railroad track at Keene and near Calente, Calif., was washed out at an estimated damage of $12,000, making a total estimated damage of $62,000. Transportation (both rail and highway) and communication lines were shut down for 24 hours.

The water, after being released into the valley from the narrow canyons, did no appreciable damage.

The Kings River at Piedra, Calif., was slightly above flood stage on October 30, but the water was diverted into canals and no damage resulted.

FLOOD STAGE REPORT FOR OCTOBER 1945

[All dates in October unless otherwise indicated]

River and station	Flood stage	Above flood stages—dates		Crest [1]	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE	*Feet*			*Feet*	
Tioughnioga: Whitney Point, N. Y.	12	2	3	12.2	2
Chenango: Sherburne, N. Y.	8	2	3	9.0	2
Susquehanna:					
Oneonta, N. Y.	12	2	4	13.2	2
		9	10	12.8	9
Vestal, N. Y.	14	3	3	14.1	3
Roanoke: Williamston, N. C.	10	Sept. 21	4	15.0	Sept. 26
Neuse:					
Goldsboro, N. C.	14	Sept. 18	2	26.7	Sept. 23
Kinston, N. C.	14	Sept. 20	5	22.4	Sept. 27
				8.8	Sept. 19
Waccamaw: Conway, S. C.	7	Sept. 17	9	11.2	Sept. 29–30
PeeDee: Mars Bluff Bridge, S. C.	17	Sept. 17	----------	31.3	Sept. 22
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Rock: Moline, Ill.	10	2	4	10.1	2–4
Missouri Basin					
Osage: Bagnell Dam (Lakeside), Mo.	60	8	8	60.0	8
Ohio Basin					
Allegheny: Olean, N. Y.	10	3	3	10.2	3
West Fork:					
Anderson, Ind.	10	2	3	10.4	2
Elliston, Ind.	18	3	5	18.7	4
				15.3	Sept. 30
Edwardsport, Ind.	12	Sept. 28	9	17.0	6
White: Hazleton, Ind.	16	3	7	16.4	5
Wabash:					
Wabash, Ind.	12	1	3	15.1	2
Lafayette, Ind.	11	1	6	18.1	3
Covington, Ind.	16	2	8	20.2	5
Terre Haute, Ind.	14	4	9	15.4	7
Arkansas Basin					
Walnut: Winfield, Kans.	30	Sept. 28	2	35.0	Sept. 30
Verdigris:					
Independence, Kans.	36	Sept. 29	3	41.6	2
Claremore, Okla.	38	Sept. 27	9	47.0	4
Cottonwood:					
Cottonwood Falls, Kans.	9	Sept. 29	Sept. 29	12.0	Sept. 29
Emporia, Kans.	20	Sept. 29	3	25.2	1
Neosho:					
Neosho Rapids, Kans.	22	Sept. 29	3	24.6	2
Burlington, Kans.	27	Sept. 30	4	31.1	3
LeRoy, Kans.	23	Sept. 30	5	24.8	1, 4
Iola, Kans.	15	Sept. 29	6	18.0	1
Chanute, Kans.	20	Sept. 29	6	23.1	3
Parsons, Kans.	22	Sept. 30	6	24.5	2–4
Oswego, Kans.	17	Sept. 30	8	21.4	2
Arkansas:					
Arkansas City, Ark.	16	Sept. 28	1	19.7	Sept. 30
Ralston, Okla.	16	Sept. 29	3	19.4	2
Tulsa, Okla.	12	Sept. 29	4	16.7	1
				29.0	2
Webbers Falls, Okla.	23	Sept. 28	9	24.1	6
Fort Smith, Ark.	22	Sept. 28	10	28.8	3
Van Buren, Ark.	22	Sept. 28	11	29.4	3
Ozark, Ark.	22	1	6	25.8	3
Dardanelle, Ark.	22	Sept. 29	10	27.7	4
Morrillton, Ark.	20	2	7	21.6	4
Red Basin					
Little: Whitecliffs, Ark.	25	3	5	25.5	4
Lower Mississippi Basin					
St. Francis:					
Fisk, Mo.	20	24	28	21.6	26
St. Francis, Ark.	18	1	10	18.8	2–3
WEST GULF OF MEXICO DRAINAGE					
Elm Fork: Carrollton, Tex.	6	10	10	6.3	10
East Fork: Rockwall (near), Tex.	10	9	12	16.7	10
Trinity: Dallas, Tex.	28	11	11	28.4	11
PACIFIC SLOPE DRAINAGE					
San Joaquin Basin					
Kings: Piedra, Calif.	10	30	30	10.8	30

[1] Provisional.